

AMENDMENT AND RESPONSE

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Serial No.: 10/668,752

Filing Date: September 23, 2003

Attorney Docket No. 125.067US02

Title: METHODS TO CONTROL THE DROOP WHEN POWERING DUAL MODE PROCESSORS AND ASSOCIATED CIRCUITS

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Amendments to the Claims:

This listing of claims will replace all prior versions and listings of claims in the application:

Listing of claims:

1. (Currently amended) A method of operating a DC/DC converter having an output coupled to a load with two or more modes of operations, the method comprising:

selectively coupling a power source ~~from two or more power sources~~ to an input of the DC/DC converter; and

creating a droop in an output signal to the load in response in part to a signal from the power source and in response in part to the operating mode of the load such that ~~the amount of droop in the output signal is based on the operating mode of the load~~ the droop is substantially symmetrical throughout the operational modes of the DC/DC converter.

2. (Original) The method of claim 1, wherein creating the droop in the output signal further comprises:

multiplying a sensed current in a feedback loop with a signal that is inversely proportional to a frequency of the load.

3. (Original) The method of claim 1, wherein creating the droop in the output signal further comprises:

multiplying a sensed current in a feedback loop with a signal that is inversely proportional to a reference voltage, wherein the reference voltage is associated with a desired operating voltage of the load.

4. (Original) The method of claim 1, wherein creating the droop in the output signal further comprises:

multiplying a sensed current in a feedback loop with a signal inversely proportional to a reference voltage and a signal inversely proportional to a frequency in which the load operates, wherein the reference voltage is reflective of a desired operating voltage of the load.

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5. (Original) The method of claim 1, wherein creating the droop in the output signal further comprises:

multiplying a sensed current in a feedback loop with a signal that is inversely proportional to a reference voltage squared, wherein the reference voltage is reflective of a desired operating voltage of the load.

6. (Original) The method of claim 1, wherein creating the droop in the output signal further comprises:

controlling a gain of a buffer amplifier in a feedback loop with a frequency signal proportional to the frequency in which the load operates.

7. (Original) The method of claim 6, wherein the frequency signal is derived from a reference voltage, wherein the reference voltage is associated with a desired operating voltage of the load.

8. (New) A method of operating a multi-mode DC/DC converter, the method comprising:

maintaining a substantially symmetrical voltage droop throughout operational modes of the DC/DC converter.

9. (New) The method of claim 8, further comprising:

using a feedback loop to adjust the voltage droop.

10. (New) The method of claim 8, further comprising:

altering a slope of a load line in accordance with an operating mode to adjust the voltage droop.

11. (New) The method of claim 8, further comprising:

offsetting a reference to a feedback amplifier to adjust the voltage droop.